

### LHM Series 焊片/焊针型铝电解电容器长寿命品

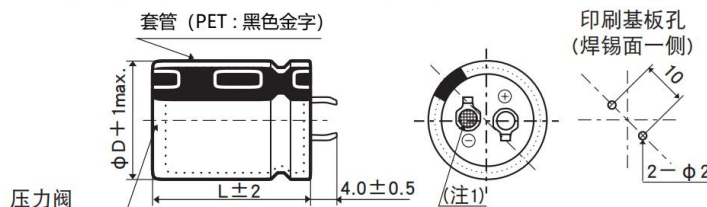
RoHS compliance  
105°C 3000 hours  
High Ripple Power Supplies

#### ■主要技术性能 Specifications

使用温度范围 Operating Temperature Range	-40 ~ +105°C	-25 ~ +105°C																								
额定电压范围 Rated Voltage Range	16~100V DC	160~450V DC																								
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, 20°C)																									
漏电流 (20°C) Leakage Current	$I \leq 3 \sqrt{CV}$ (after 5 min) I=Leakage Current(μA), C=Capacitance(μF), V=Rated DC Working Voltage(V)																									
损耗角正切值 Dissipation Factor (120Hz 20°C)	<table border="1"> <tr> <th>W.V.</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63~100</th> <th>160~400</th> <th>420~450</th> </tr> <tr> <td>tgδ</td> <td>0.50</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.20</td> <td>0.15</td> <td>0.20</td> </tr> </table> <p>0.02 is added to every 1000μF increase over 1000μF</p>		W.V.	16	25	35	50	63~100	160~400	420~450	tgδ	0.50	0.40	0.35	0.30	0.20	0.15	0.20								
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tgδ	0.50	0.40	0.35	0.30	0.20	0.15	0.20																			
温度特性 (120Hz) Temperature Characteristics Impedance Ratio (120Hz)	<table border="1"> <tr> <th>W.V.</th> <th>160~100</th> <th>160~200</th> <th>250~450V</th> </tr> <tr> <td><math>Z_{-25°C} / Z_{+20°C}</math></td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td><math>Z_{-40°C} / Z_{+20°C}</math></td> <td>15</td> <td>-</td> <td>-</td> </tr> </table>		W.V.	160~100	160~200	250~450V	$Z_{-25°C} / Z_{+20°C}$	4	4	4	$Z_{-40°C} / Z_{+20°C}$	15	-	-												
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耐久性 Load Life	<p>在 105°C 环境施加额定工作电压 3000 小时后，电容器的特性符合下表要求。 105°C environment d rated operating voltage after 3,000 hours , capacitor characteristics meet the requirements in the following table.</p> <table border="1"> <tr> <td>电容量变化率 Capacitance Change</td> <td>≤±20%初始测量值 ≤±20% of Initial measured value</td> </tr> <tr> <td>漏电流值 Leakage</td> <td>≤规定值 ≤The specified value</td> </tr> <tr> <td>损耗角正切值 Dissipation Factor</td> <td>≤2 倍规定值 ≤200% of the specified value</td> </tr> </table>		电容量变化率 Capacitance Change	≤±20%初始测量值 ≤±20% of Initial measured value	漏电流值 Leakage	≤规定值 ≤The specified value	损耗角正切值 Dissipation Factor	≤2 倍规定值 ≤200% of the specified value																		
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高温贮存 Shelf Life	<p>试验时间：105°C, 1000 小时；电压应用处理：根据 JIS C5101-4.1 Test time :105°C, 1000hours； Voltage application treatment : According to JIS C5101-4 4.1</p> <table border="1"> <tr> <td>电容量变化率 Capacitance Change</td> <td>≤±15%初始测量值 ≤±15% of Initial measured value</td> </tr> <tr> <td>漏电流值 Leakage</td> <td>≤规定值 ≤The specified value</td> </tr> <tr> <td>损耗角正切值 Dissipation Factor</td> <td>≤1.5 倍规定值 ≤150% of the specified value</td> </tr> </table>		电容量变化率 Capacitance Change	≤±15%初始测量值 ≤±15% of Initial measured value	漏电流值 Leakage	≤规定值 ≤The specified value	损耗角正切值 Dissipation Factor	≤1.5 倍规定值 ≤150% of the specified value																		
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额定纹波电流频率系数 Coefficient of Frequency for Rated Ripple Current	<table border="1"> <tr> <th>Frequency Voltage</th> <th>50Hz</th> <th>120Hz</th> <th>1KHz</th> <th>10KHz</th> <th>≥50KHz</th> </tr> <tr> <td>≤100V</td> <td>0.95</td> <td>1.00</td> <td>1.13</td> <td>1.19</td> <td>1.20</td> </tr> <tr> <td>160~250V</td> <td>0.87</td> <td>1.00</td> <td>1.32</td> <td>1.45</td> <td>1.50</td> </tr> <tr> <td>≥315V</td> <td>0.80</td> <td>1.00</td> <td>1.30</td> <td>1.41</td> <td>1.43</td> </tr> </table>		Frequency Voltage	50Hz	120Hz	1KHz	10KHz	≥50KHz	≤100V	0.95	1.00	1.13	1.19	1.20	160~250V	0.87	1.00	1.32	1.45	1.50	≥315V	0.80	1.00	1.30	1.41	1.43
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#### ■外形图 Outline Drawing

●端子代码: LP (φ 22~35) : 标准品



(注1) 阴极端子的铆钉部网眼刻印。

■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表  
Nominal capacitance, rated voltage, rated ripple current and case size table

WV Cap(μF)	16V		25V		35V		50V		63V		80V		100V	
	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)
560													22×25	1.07
680													22×30	1.20
820											22×25	1.11	22×30 25×25	1.35 1.35
1000											22×25	1.25	22×35 25×30	1.54 1.56
1200									22×25	1.25	22×30 25×25	1.39 1.39	22×40 25×35 30×25	1.74 1.76 1.71
1500									22×25	1.39	22×35 25×30	1.61 1.62	22×45 25×40 30×30 35×25	1.99 2.03 2.00 2.07
1800							22×25	1.31	22×30 25×25	1.52 1.52	22×40 30×25	1.83 1.81	25×45 30×35	2.28 2.27
2200							22×30	1.45	22×35 25×30	1.73 1.75	22×45 25×35 30×30 35×25	2.09 2.01 2.10 2.17	25×50 30×40 35×30	2.57 2.59 2.52
2700							22×30 25×25	1.70 1.70	22×40 25×35 30×25	1.97 1.99 1.93	25×45 30×35	2.43 2.43	30×45 35×35	2.94 2.90
3300					22×25	1.43	22×35 25×30	1.98 2.00	22×50 25×40 30×30 35×25	2.32 2.27 2.24 2.41	25×50 30×40 35×30	2.76 2.78 2.71	30×50 35×40	3.32 3.31
3900					22×30	1.65	22×40 25×35 30×25	2.25 2.28 2.22	25×45 30×35	2.54 2.55	30×45 35×35	3.12 3.07	35×45	3.69
4700			22×25	1.55	25×25	1.78	22×45 30×30 35×25	2.56 2.58 2.67	25×50 30×40 35×30	2.88 2.90 2.83	30×50 35×40	3.56 3.50	35×50	4.14
5600			25×25	1.70	22×35 25×30 30×25	2.02 2.04 2.12	22×50 25×40 30×35	2.89 2.81 2.95	30×45 35×35	3.28 3.24	35×45	3.87		
6800	22×25	1.60	22×30 25×25	1.91 1.91	22×40 25×35	2.28 2.31	25×50 30×40 35×30	3.37 3.39 3.31	30×50 35×40	3.73 3.71	35×50	4.19		
8200	25×25	1.80	22×35 25×30 30×25	2.14 2.16 2.25	22×50 25×40 30×30 35×25	2.67 2.60 2.56 2.78	30×45 35×35	3.71 3.66	35×45	4.16				
10000	22×30 25×25	1.99 1.99	22×40 25×35	2.40 2.44	25×45 30×35	2.92 2.92	30×50 35×40	4.09 4.07	35×50	4.69				
12000	22×35 25×30 30×25	2.28 2.30 2.38	22×45 25×40 30×30	2.69 2.74 2.70	25×50 30×40 35×30	3.26 2.28 3.20	35×45	4.50						
15000	22×40 25×35	2.64 2.68	25×45 30×35 35×30	3.15 3.13 3.22	30×45 35×35	3.74 3.69								
18000	22×45 25×40 30×30	2.98 3.04 3.00	25×50 30×40	3.54 3.54	35×40	4.16								
22000	25×45 30×35	3.40 3.39	30×45 35×35	4.24 3.96	35×50	4.92								
27000	25×50 30×40 35×30	3.81 3.83 3.74	35×45	4.75										
33000	30×45 35×35	4.30 4.24	35×50	5.39										
39000	30×50 35×40	4.74 4.72												
47000	35×45	5.27												

I~额定纹波电流 Rated ripple current: (A, 105°C, 120Hz)

■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表  
Nominal capacitance, rated voltage, rated ripple current and case size table

WV Cap(μF)	160V		200V		250V		350V		400V		450V	
	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)
56											22×25	0.50
68							22×25	0.70	22×25	0.48	22×30	0.60
82									22×30 25×25	0.57 0.56	22×35	0.65
100							22×30 25×25	0.87 0.87	22×35 25×25	0.65 0.65	22×35 25×30 30×25	0.72 0.72 0.72
120							22×35	0.90	22×35 25×30 30×25	0.71 0.71 0.71	22×45 25×35	0.80 0.80
150							22×40 25×30 30×25	0.98 1.02 1.02	22×40 25×35 30×25	0.85 0.85 0.85	22×50 25×40 30×30 35×25	0.95 0.95 0.95 0.95
180					22×25	1.00	22×45 25×35 30×30	1.11 1.11 1.12	22×50 25×40 30×30 35×25	1.00 1.00 1.00 1.00	25×45 30×35	1.05 1.05
220			22×25	1.10	22×30 25×25	1.20 1.20	22×50 25×40 35×25	1.16 1.20 1.20	25×45 30×35 35×30	1.20 1.20 1.20	25×50 30×40 35×30	1.30 1.30 1.30
270			22×25	1.17	22×35	1.25	25×50 30×35 35×30	1.26 1.31 1.26	25×50 30×40 35×30	1.35 1.35 1.35	30×45 35×35	1.50 1.50
330	22×25	1.42	22×30 25×25	1.40 1.40	22×40 25×30 30×25	1.30 1.35 1.35	30×45 30×50	1.45 1.45	30×45 35×35	1.60 1.60	30×50 35×40	1.90 1.90
390	25×25	1.45	22×30	1.45	22×45 25×35	1.40 1.45	30×50 35×40	1.58 1.58	30×50 35×40	1.80 1.80	35×45	1.90
470	22×35	1.63	22×35 25×30 30×25	1.55 1.55 1.60	22×50 30×30 35×25	1.65 1.65 1.65	35×45	1.69	35×45	2.10	35×50	2.20
560	22×35 25×30 30×25	1.75 1.75 1.75	22×45 25×35	1.65 1.65	25×45 30×35 35×30	1.85 1.85 1.85	35×50	1.89	35×50	2.30		
680	22×40 25×35	1.98 1.98	22×50 25×40 30×30 35×25	1.68 1.92 1.92 2.20	25×50 30×40	2.20 2.20						
820	22×50 25×40 30×30 35×25	2.35 2.35 2.35 2.35	22×45 30×35 35×30	2.20 2.20 2.40	30×45 30×50	2.50 2.50						
1000	22×45 30×35 35×30	2.50 2.50 2.50	30×40 35×35	2.40 2.40	30×50 35×40	2.90 2.90						
1200	25×50 30×40 35×35	2.87 2.87 2.87	30×45 35×40	2.75 2.75	35×45	3.30						
1500	30×45 35×40	3.57 3.60	35×40	3.45	35×50	3.80						
1800	35×45	4.15	35×45	4.00								
2200	35×50	4.65	35×50	4.50								

I~额定纹波电流 Rated ripple current: (A, 105°C, 120Hz)